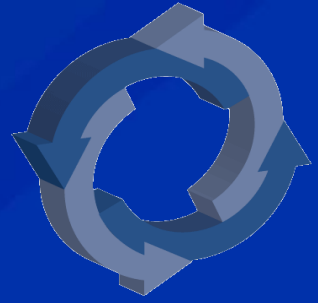
Countermeasure and Response Administration



Monitoring Influenza A (H1N1) Vaccine Doses Administered Using CDC's Countermeasure and Response Administration System: Lessons Learned

2010 National Immunization Conference
Atlanta, GA

Joint Presentation April 22, 2010 by:

Immunization Services Division
National Center for Immunization and Respiratory Diseases
and
Division of Informatics Solutions and Operations (proposed)
Public Health Informatics and Technology Program Office (proposed)

CDC
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CRA Objectives

- Background
- Present Results from 2009 H1N1 Vaccine Doses Administered Event
- Share Lessons Learned and Best Practices

Why Doses Administered?

- "Gold standard" statistical methods (BRFSS, NIS) to assess vaccine coverage are used during a normal influenza season when vaccine volume is high
- In the early stages of the H1N1 campaign, vaccine volume was not high enough for these to be statistically significant until approximately week 8
- Doses administered (DA) data – in combination with distribution figures – were used to assess coverage and help assure the vaccine was reaching targeted groups during those initial 8 weeks
- DA data also provided a "check and balance" for identifying vaccine distribution or implementation issues

Countermeasure and Response Administration (CRA)

- Genesis in Pre-Event Vaccination System (PVS) for national smallpox vaccination campaign
- Supports mass tracking during an event
  - Tracks both detail (person level) and aggregate counts of countermeasures
- Evolved to support any countermeasure, any event
  - Medical interventions (vaccines, pharmaceuticals)
  - Non-medical interventions (patient isolation, quarantine, scarce medical equipment and social distancing measures)
- CRA was updated and exercised in 2007/8 and 2008/9 to support doses administered for pandemic influenza
- CRA was stood up to track and monitor H1N1 Doses Administered for the initial weeks of the H1N1 Vaccine Program

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Aggregate Reporting Options via CRA

2009 H1N1 Response

26 Option 1 Users

State enter data into state's Immunization Information System or other equivalent application and is extracted in one of these formats:

Option 1
Data exchange

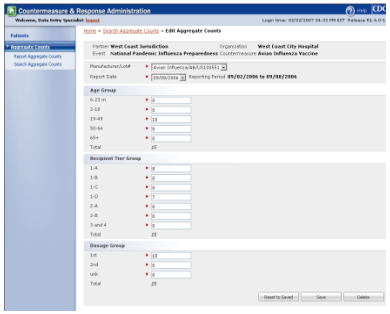
- Pipe-delimited File
- XML File
- HL 7

File is securely transferred to CDC via either CRA application or PHIN MS and loaded into CRA for reporting

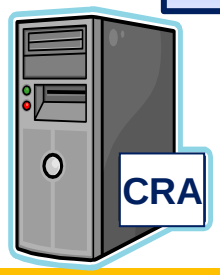
35 Option 2 Users

Aggregate data entered directly into CRA via the web-based aggregate reporting interface

Option 2
Direct web entry



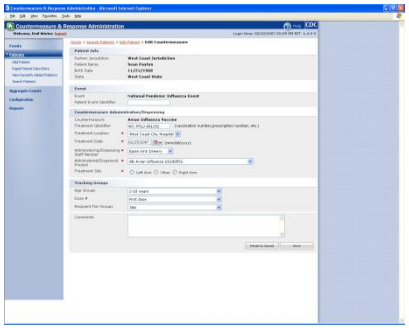
Data is available in CRA for reporting



1 Option 3 User

Individual level data is entered directly into CRA via the web based flexible Treatment interface

Option 3
Individual level data entry



Individual level data are automatically aggregated by CRA and are available for reporting

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Guidelines for H1N1 Doses Administered Reporting

- Each Project Area responsible for
  - Sending data to CRA for each reporting period
  - Aggregating all doses administered by age group and dose number for all clinics in the jurisdiction
- Reporting based on the MMWR week
  - Sunday – Saturday
- Reporting required weekly to CDC by Tuesday 11:59 pm of respective time zone

H1N1 Vaccine Doses Administered Data Summary Results

- 8 week reporting period 10/03 – 11/21
  - Updates allowed through 12/31/2009
- Total doses administered: 14,788,795
  - For reporting period 10/03 –11/21 as of 1/1/10
- Project Area reporting status
  - 35% doses administered reported/doses shipped
  - Children ages 5-18 received more than 35% of the reported H1N1 vaccine
  - Over 83% of the vaccine reported was for persons under 65 years
- Average lag time was 2 – 4 weeks for receiving full updated counts

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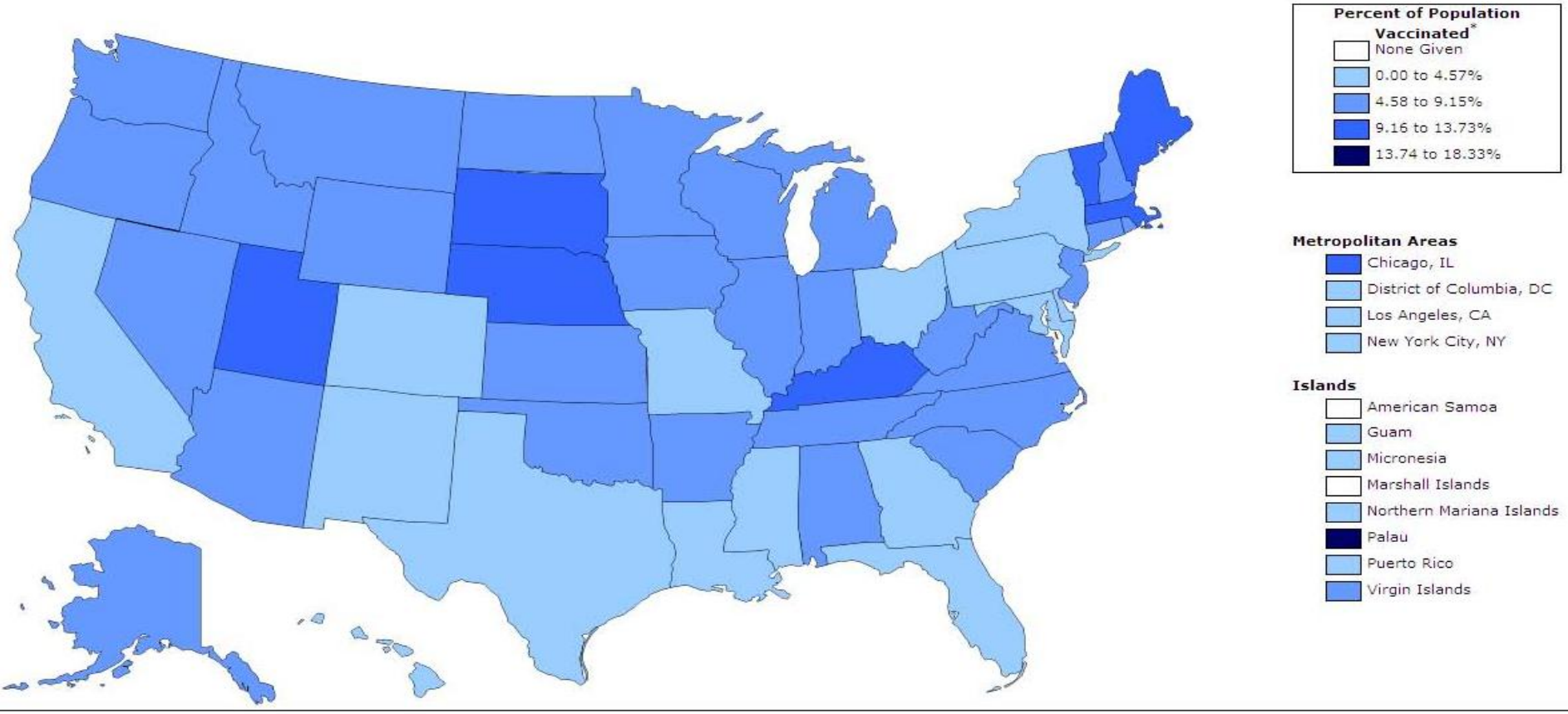
H1N1 Vaccine Doses Administered Final Map

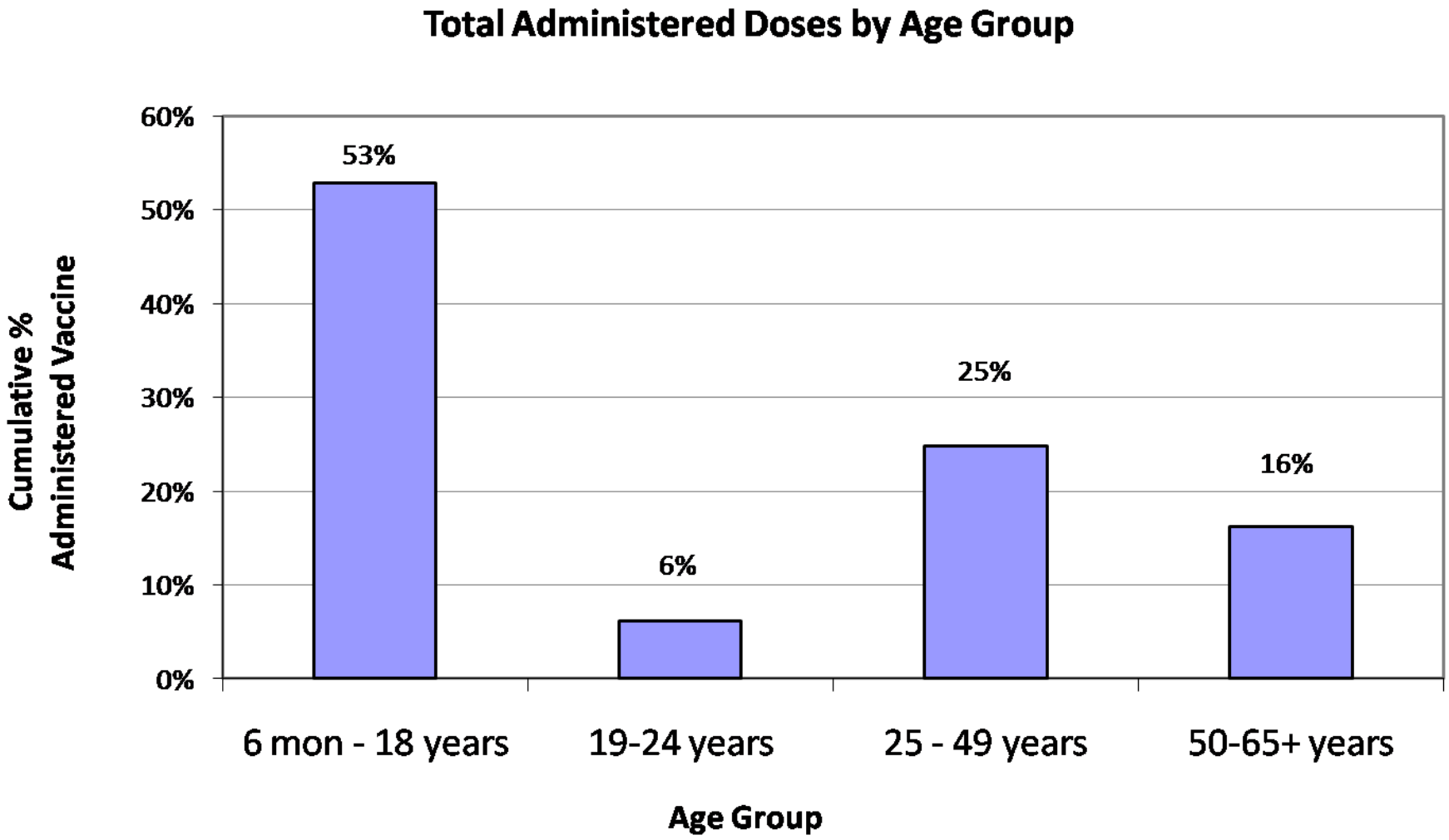
Influenza A (H1N1) 2009 Monovalent Vaccine
Confirmed Doses Administered Summary Report

Date Range: 11/15/2009 to 11/21/2009 (2009 MMWR 46)

Figure 3: National map | Total Doses Administered:14,499,855 | Data represents 1st dose

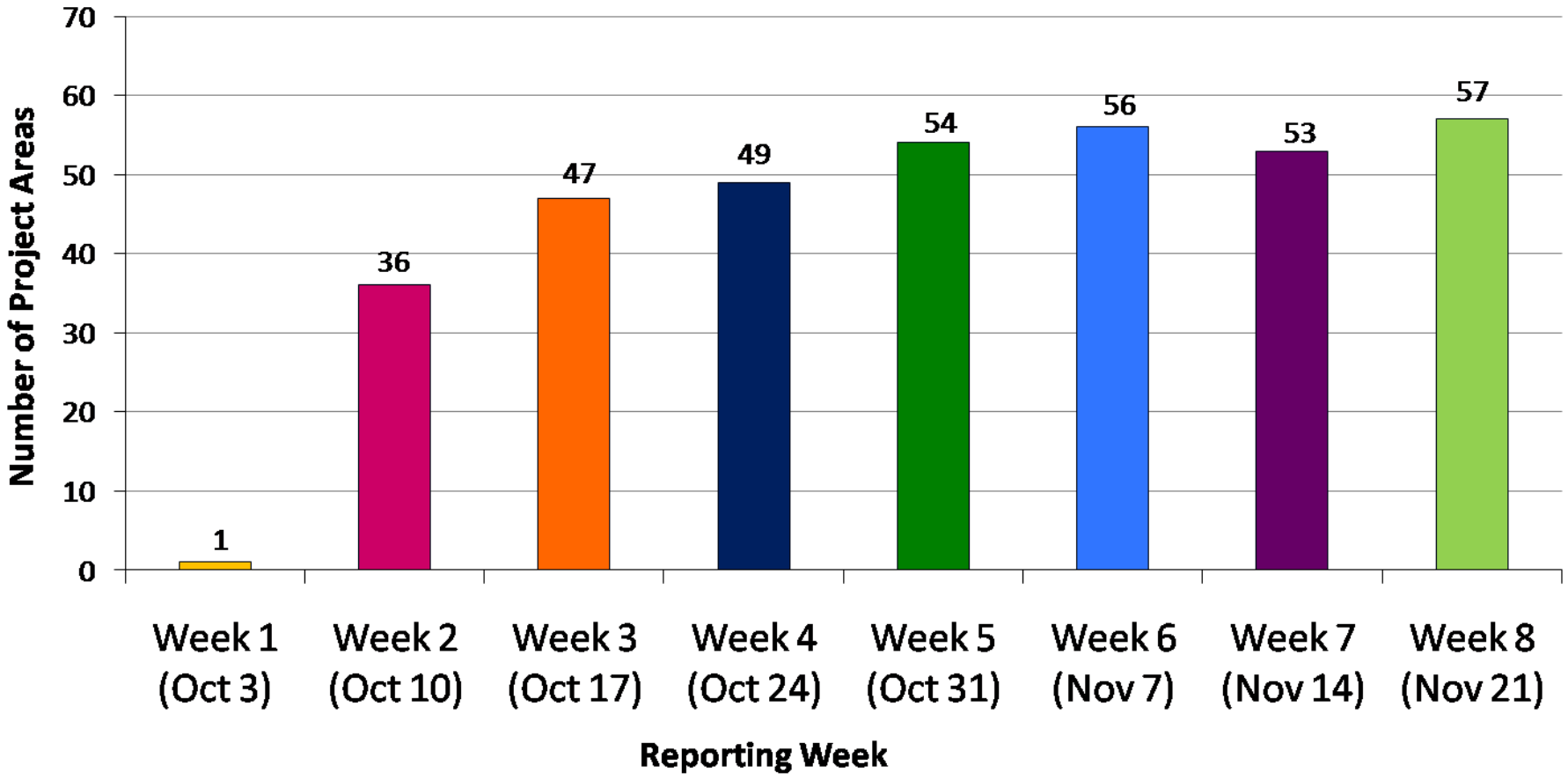


H1N1 Doses Administered By Age Group



Reporting Timeliness

***Timeliness*: Sending weekly aggregate data by 11:59 PM on Tuesday following the reporting week.**



Robust Project Areas (11/21/2009) National and Option Type Coverage

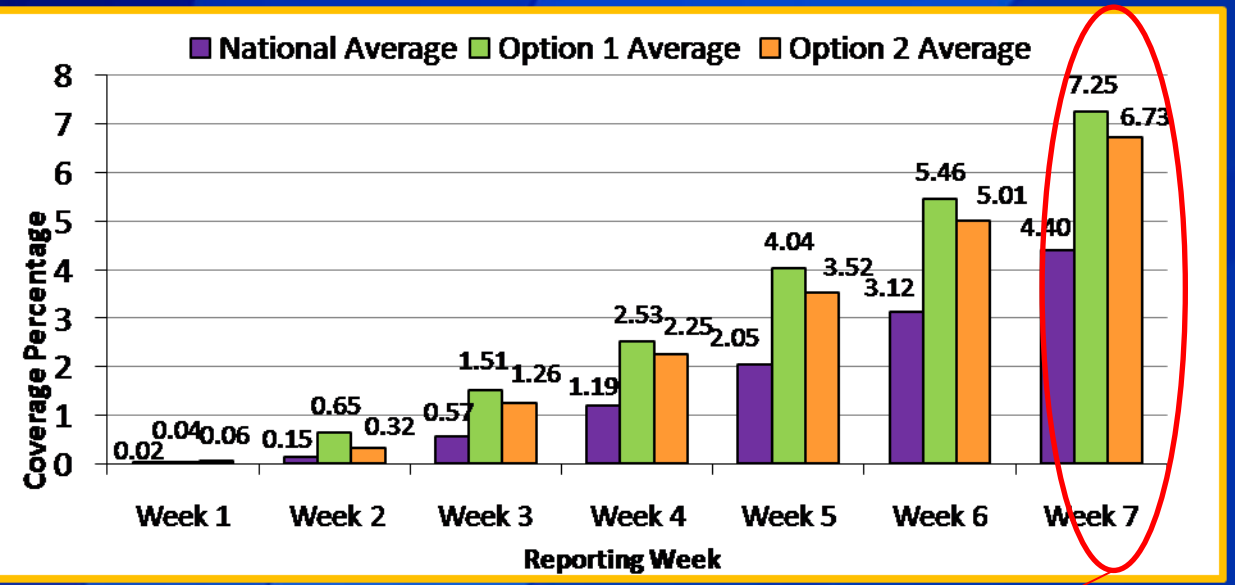


Figure 1. Robust coverage: weekly percentage of Option 1 & 2 users reporting higher than the national average

- CRA doses administered reporting, w/e 10/10/2009 through w/e 11/21/2009

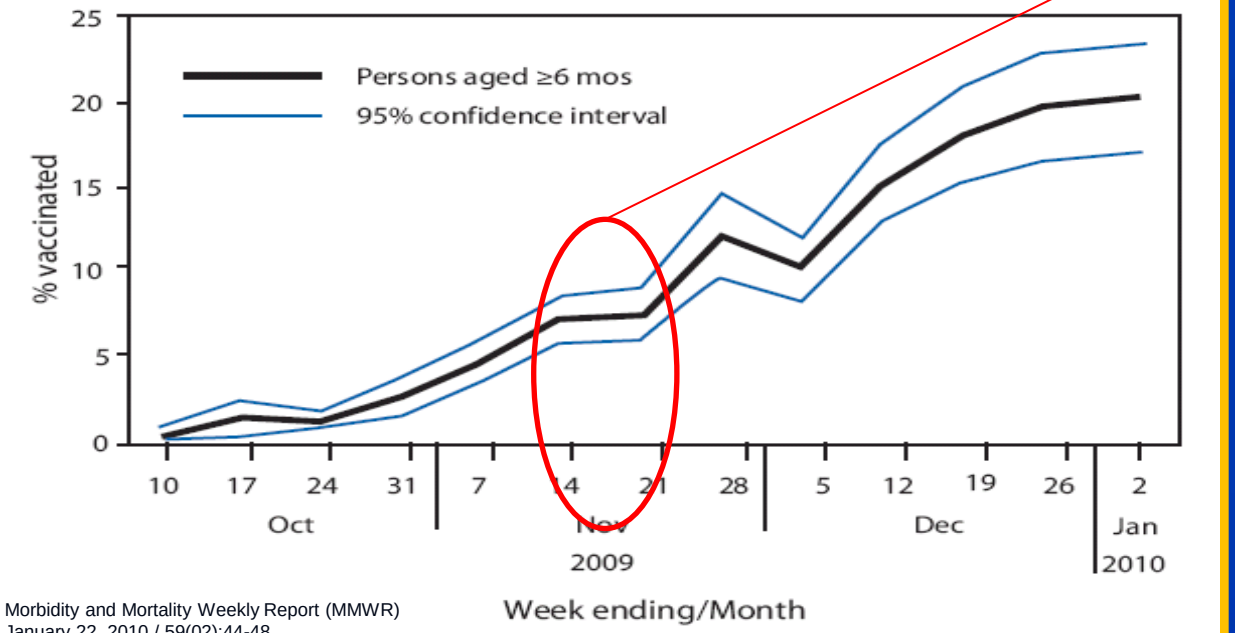


Figure 2. Weekly estimates of vaccination coverage among U.S. residents aged ≥6 months

- National 2009 H1N1 Flu Survey, w/e 10/10/2009 through w/e 1/2/2010

Morbidity and Mortality Weekly Report (MMWR)
January 22, 2010 / 59(02);44-48

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Data Transfer and Aggregation Methods

Option 1 Users	Count	Percentage
PIPE/CRA	9/26	35%
XML/CRA	8/26	31%
XML/PHIN MS	3/26	11%
Not Specified	6/26	23%

Option 2 Users*	Count	Percentage
IIS in combination w/other method	20/33	61%
Paper only	7/33	21%
Paper + website	3/33	9%
Other	2/33	6%
Paper + Survey	1/33	3%

* H1N1 doses administered data for 2 Project Areas was not received during the 8-week reporting period

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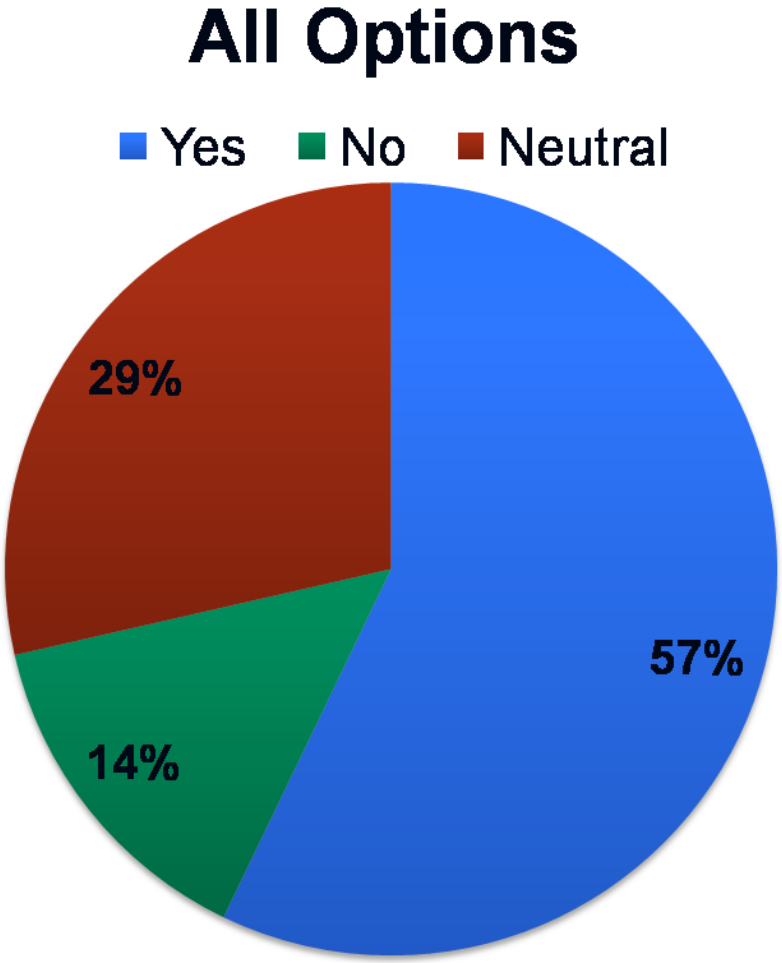
Feedback Questionnaire Outcomes

- Project Areas were asked to complete an anonymous, on-line feedback questionnaire
- 85% (53/62) respondents completed the poll
- Eleven questions highlighting
  - Ease of using CRA to report data
  - Effectiveness of communication from CDC
  - Benefits of past exercises
  - Issues/barriers encountered
  - Collaboration between Immunization and Emergency Preparedness
  - Feedback to improve future responses

Please rate your experience with the level of support provided by CDC?

Number of respondents=50	Very Adequate or Adequate	Neutral	Not Adequate or Very Inadequate	Not Applicable
Communication	92%	4%	4%	0%
CDC Points of Contact	90%	8%	2%	0%
Weekly Project Area Update	80%	12%	6%	2%
CRA Webpage	72%	10%	6%	12%
Technical Assistance and Support	68%	16%	2%	14%
PHIN Helpdesk	56%	20%	0%	24%

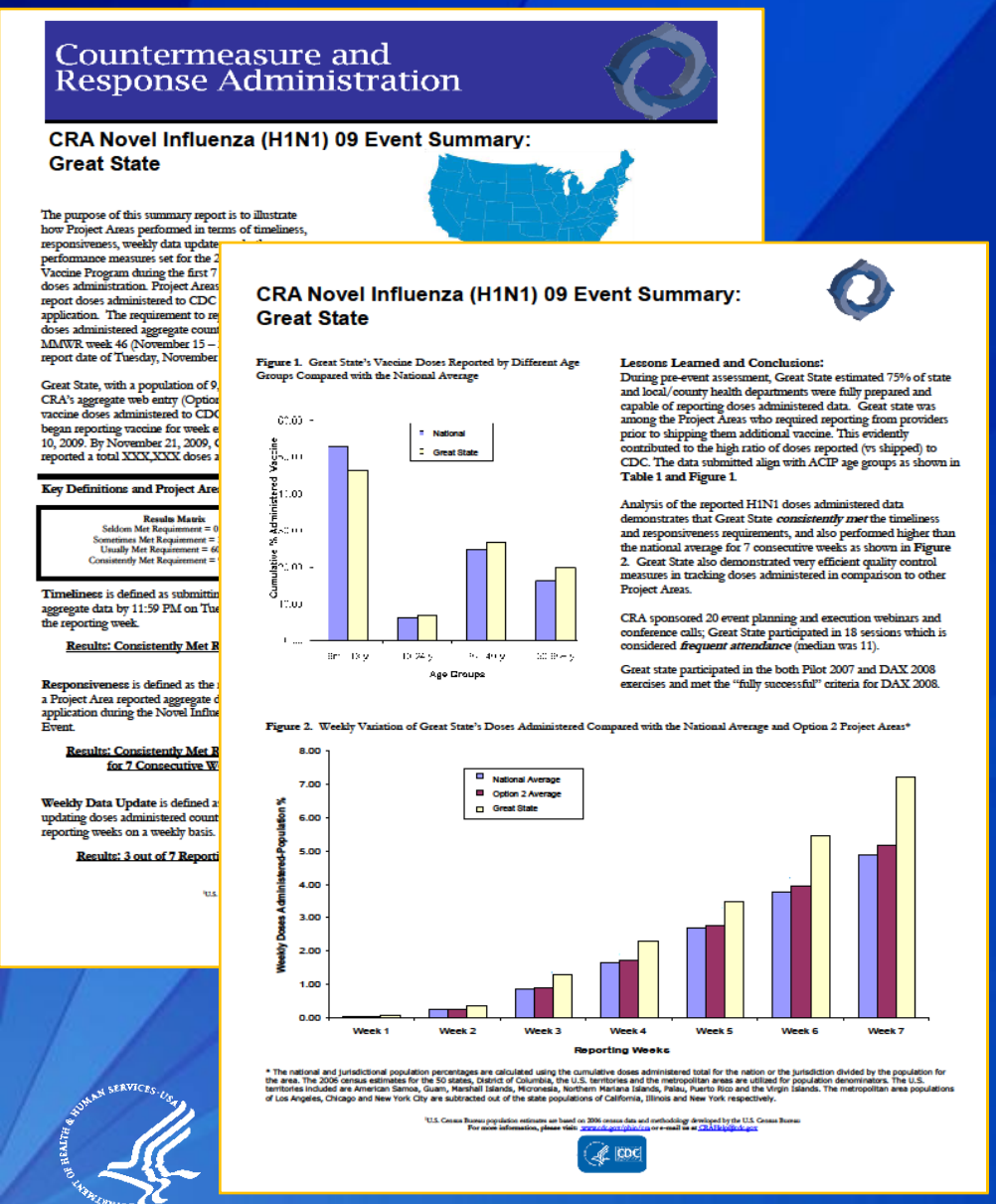
Has H1N1 Initiative helped to improve coordination and communication between Immunization and Preparedness branches/sections at your health department?



After Action Review Call Feedback

- Challenges with DA exercise priority groups conforming to H1N1 ACIP age groups
- CRA was easy to use
- CDC/CRA support was good (technical and project)
- Communication was good throughout event
- Continue interactive webinars to show functionality of CRA

Project Area Summary Reports


Countermeasure and Response Administration

CRA Novel Influenza (H1N1) 09 Event Summary: Great State

The purpose of this summary report is to illustrate how Project Areas performed in terms of timeliness, responsiveness, weekly data update performance measures set for the 2 Vaccine Program during the first 7 doses administration. Project Areas report doses administered to CDC application. The requirement to re doses administered aggregate count MMWR week 46 (November 15 – report date of Tuesday, November

Great State, with a population of 9, CRA's aggregate web entry (Option vaccine doses administered to CDC began reporting vaccine for week e 10, 2009. By November 21, 2009, reported a total XXX,XXX doses a

Key Definitions and Project Area

Results Matrix
Seldom Met Requirement = 0
Sometimes Met Requirement =
Usually Met Requirement = 66
Consistently Met Requirement =

Timeliness is defined as submittin aggregate data by 11:59 PM on Tue the reporting week.

Results: Consistently Met R

Responsiveness is defined as the a Project Area reported aggregate d application during the Novel Influe Event.

Results: Consistently Met R for 7 Consecutive W

Weekly Data Update is defined a updating doses administered count reporting weeks on a weekly basis.

Results: 3 out of 7 Reporti

CRA Novel Influenza (H1N1) 09 Event Summary: Great State

Figure 1. Great State's Vaccine Doses Reported by Different Age Groups Compared with the National Average

Lessons Learned and Conclusions:
During pre-event assessment, Great State estimated 75% of state and local/county health departments were fully prepared and capable of reporting doses administered data. Great state was among the Project Areas who required reporting from providers prior to shipping them additional vaccine. This evidently contributed to the high ratio of doses reported (vs shipped) to CDC. The data submitted align with ACIP age groups as shown in **Table 1 and Figure 1**.

Analysis of the reported H1N1 doses administered data demonstrates that Great State ***consistently met*** the timeliness and responsiveness requirements, and also performed higher than the national average for 7 consecutive weeks as shown in **Figure 2**. Great State also demonstrated very efficient quality control measures in tracking doses administered in comparison to other Project Areas.

CRA sponsored 20 event planning and execution webinars and conference calls; Great State participated in 18 sessions which is considered ***frequent attendance*** (median was 11).

Great state participated in the both Pilot 2007 and DAX 2008 exercises and met the "fully successful" criteria for DAX 2008.

Figure 2. Weekly Variation of Great State's Doses Administered Compared with the National Average and Option 2 Project Areas*

* The national and jurisdictional population percentages are calculated using the cumulative doses administered total for the nation or the jurisdiction divided by the population for the area. The 2006 census estimates for the 50 states, District of Columbia, the U.S. territories and the metropolitan areas are utilized for population denominators. The U.S. territories included are American Samoa, Guam, Marshall Islands, Micronesia, Northern Mariana Islands, Palau, Puerto Rico and the Virgin Islands. The metropolitan area populations of Los Angeles, Chicago and New York City are subtracted out of the state populations of California, Illinois and New York respectively.

- Illustrate how Project Areas performed according to key metrics
  - Timeliness
  - Responsiveness
  - Weekly Data Updates
- Comparisons with national figures and Project Areas using same reporting Option
- Charts/Graphs
- Lessons Learned and Conclusions

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Doses Administered Successes and Challenges

Successes

- Nearly 100% weekly reporting from all Project Areas
- One of few data sources on how the vaccine campaign was progressing
- Data check for other H1N1 activities

Challenges

- Relatively nascent data source
- Provider timeliness and reporting accuracy
- Operational logistics at the Project Area level
- Programmatic/Technical
  - Digital Certificates
  - SDN security upgrades
  - Aggregate reporting
  - Uploading information

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Lessons Learned

- Good thing we had a system and standard practices already set up and exercised as part of pandemic influenza preparedness !
- Difficult to get timely and complete reporting nation-wide given varying capabilities across states; in the future, may consider a subset of “robust project areas” until capabilities are consistently higher
- Room for improvement in system automation at state and local levels
- Increased communication frequency via webinars, conference calls and one-on-one calls improved participation over the exercises (also it was a pandemic!)
- Positive collaboration among federal, state and local health agencies contributed to the success of the H1N1 doses administered monitoring response
- Consistent and agreed upon processes needed between Immunization and Preparedness Programs

Plans for 2010

- Continue to seek supplemental funding opportunities to assist Project Areas
- Continue to provide educational opportunities (i.e. conferences, meetings, etc.)
- Further evaluation of Project Area participation in exercises versus actual event
- Doses Administered hiatus through year end

Questions or Comments?